THE VETERINARY RECORD

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Edited by WILLIAM HUNTING, F.R.C.V.S.

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VETERINARY COLLEGES AND UNIVERSITIES.

On another page we reprint an abstract from a very long article which appeared in *The Scotsman* last Saturday under the title "The Royal Dick Veterinary College and Veterinary Graduation." Although the article is applied directly to the proposed connection between the Dick College and the University of Edinburgh it contains a great deal which has a wider application. The author discusses, with special knowledge, the wants of veterinary graduates, the advantages of University education, and the difficulties of connecting the two so as to attain the greatest good.

Apparently the affiliation of the Dick College to the Edinburgh University is not yet quite complete but, thanks to the munificence of Mr. McCallum, there is no insuperable difficulty in the way, and only a question of time remains for the completion of legal and formal operations.

The project is to form an Administrative Board to which will be entrusted the management of the Dick College. The draft Ordinance issued by the University Court is framed somewhat on the lines of graduation in medicine, with a degree of Bachelor and one of Doctor. The preliminary examination is to be the same as the University medical preliminary. Attendance at the Dick College is to qualify *pro tanto* for admission to the University examinations. Degrees will be granted only to men who have obtained the M.R.C.V.S. One difficulty arises through our "one portal system." The University Medical degree admits to registration as a medical practitioner, but the proposed University Veterinary Degree will not admit to registration as a veterinary surgeon. The result is that the student will have to pass two sets of examinations and pay two sets of fees—one for the M.R.C.V.S. and one for the degree. Possibly the difficulty may be got over by the R.C.V.S. accepting some examiners from the University, or by special arrangement with the University as to the examinations. One general statement in the article we should like to emphasise:—"A self-contained institution, other things being equal, is thus to be preferred to a system under which students pass from building to building, often a considerable distance apart, and are massed for instruction in classes with students who have other careers before them. Professor Schäfer in a recent University graduation address drew attention to this point as affecting his own department of physiology—'the requirements of the ordinary medical student being quite distinct from those of the scientific student and the teaching of both in one course being scarcely compatible with duty to either.'"

AN ABSCESS IN A BONY BOX.

With this I enclose a specimen which I think is sufficiently rare to deserve recording.

The history of the case is as follows:—Last January a bay cart gelding came into hospital with an ordinary serous abscess on the near hind leg. As similar cases after being incised had healed very slowly I treated this one with cold water from the hose-pipe, and in about a fortnight returned him to work without a breeching. The swelling, which was in the usual place—over the muscles, just behind the stifle—never caused any lameness nor gave indications of heat or pain. The horse worked till June, when the swelling had become hard. In July was admitted to hospital again and a blister applied. This had no effect in reducing or softening the swelling so I opened it with the actual cautery, and had a discharge of high coloured serum. There was some difficulty in penetrating the hard swelling with a pointed cautery. Still the hard swelling remained and a seton was inserted. Whilst introducing the seton needle a hard, bony substance was felt which could not be penetrated, and the tape was passed between it and the skin. Bone plates have been found in the gluteal regionand down the outside of the thigh, but, so far as I know, not as the result of a serous abscess.

On the diagnosis of a bone-plate it was decided to excise the body and so get rid of the swelling. The horse, eight years old, and 16 hands high, was cast on August 12th, and placed under chloroform. A large incision was made over the centre of the swelling and it was decided by means of saw and bone forceps to divide the plate down the vertical line and dissect out each half separately. This was attempted, but only to find that under the divided bone was a hollow space and below that another plate; between the two plates the space contained a quantity of green and fœtid pus. A little examination showed that instead of a plate of bone we had a hollow bony box to deal with. After enlarging the incision we dissected out the whole mass without much bleeding and no other trouble.

The wound was brought together with pin sutures in its upper part and with two or three sutures of silk in its lower.

On August 15th the two lower sutures were removed as some suppuration was escaping. It was washed with cold water and an iodoform dressing applied twice daily. On the 16th and 17th rather profuse suppuration took place from the lower part of the wound, but the upper half was healed. On the 26th the pin sutures were all removed and the wound was firm and healthy, only the lower part showing a few granulations.

On Aug. 31st the horse was sound and led to exercise. In a few days he will be fit to resume work.

The mass removed was oval in shape and about eight inches by five. After being cleansed and kept for a few days in a disinfectant it was dried. It shrunk a little and has become slightly warped. The breakage was caused by the saw and bone forceps when we thought only a flat plate of bone existed.

The history of the case would suggest that the bony box had formed in the walls of the serous abscess, and that when the structure was penetrated by the hot iron, the highly coloured, thick fluid that escaped was the contents of the original serous abscess. Air was thus admitted and doubtless the germs that caused the pus found at the operation were then allowed entrance. I hope before publication to obtain an opinion on the structure of the specimen. Probably it is calcareous and not real bone.

J. C. PATON.

G.N.R., King's Cross, N.

TETANUS IN FOALS.

On the 15th day of August I docked eight foals and two yearlings, and seeing in *The Veterinary Record* advertising column of August 27th a specific cure for lockjaw for the sum of two guineas, this prompted me to record two cases which occurred in the eight foals.

On the 22nd inst., at 8.30 a.m., the owner came to see me, saying a foal was lame, flanks tucked up, and did not eat or suckle. I visited the farm about 11 a.m. and diagnosed immediately a case of tetanus with all symptoms duly set in. I at once ordered a darkened loose box, and gave the mare a ball: Aloe Barb. ʒvi., Calomel ʒj., and a bottle for foal which I ordered the man to call for, viz.:

℞ Chloral Hydratis ʒii.
Aq. ad. ʒviii.

Sig. ʒi ter in dies.

I visited on the 23rd, 24th, and 25th August expecting to find the foal dead, but to my surprise I found the muscles began to relax, the lameness to gradually disappear, and on September 12th the symptoms had all disappeared with the exception of membrana nictitans and lateral wavering of tail.

The second case occurred on the 24th. I thought it must come from unclean knife, so I ordered same to be perfectly cleaned and ground. On examining tail I found it healing to my satisfaction, but no lameness, and the symptoms not so severe as case No. 1 The jaws were not so rigidly fixed, there being about an inch or so motion, and he partook of grass all the ten days which I attended him, the treatment in both cases was precisely the same, and both made a good and thorough recovery.

I have not read of any successful treatment of tetanus in foals in my text-books. I thought it might interest some of my fellow practitioners if I recorded these two successful cases.

Menai Bridge. WM. LUTHER JONES.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TOXICITY OF COLOSTRUM OF COWS ATTACKED WITH MILK FEVER.—By M. DELMER.*

Most veterinarians consider milk fever is a general intoxication of the organism caused by the resorption of a toxic principle which originates in the mammary gland and of which the elaboration is contemporaneous with the formation of colostrum. If the results obtained by the use of recent methods of treatment appear to support the theory of Prof. Gratia, we know of not a single attempt to verify experimentally this seductive hypothesis. We have at Alfort carried out several experiments with the object of filling this gap.

On March 16, 1903, we received by mail from our *confrère* Arragon, Vétérinaire at Boulogne sur Mer, a litre of colostrum from a Flemish cow attacked with milk fever, but not treated by intra-mammary injections. It was kept in a cool place till next day; it had then separated distinctly into two portions, the upper thick, yellowish, consisting of fatty globules, occupied a quarter of the bottle; the lower, bluish-white, more fluid than the other, showed under the microscope numerous colostral corpuscles.

March 17. At 10 a.m. we injected slowly 700 grammes, about, of the lower portion of the contents of the bottle, into the jugular of a Normandy cow, aged 5 years. The morning temperature being 38·6, normal. An hour after injection there was intense dyspnœa and profuse diarrhœa. Temp. 38·1, resp. 88, pulse 48.

11.45 a.m. Temp. 39·0 resp. 60, pulse 68.
12.45 p.m. „ 39·0 „ 52, „ 80.
2.30 „ „ 37·8 „ 50, „ 100.

3.0 p.m. Tonic spasms of the muscles of the chest, the head turned backward, the superficials of the left hind limb were intensely contracted; about 5 minutes later the right limb was affected, and the left relaxed. Then the left fore limb—the extensors in particular were contracted.

3.15 to 4 p.m. convulsive movements of the hind limbs; grinding of the teeth. Soon after there was complete cessation of movement of the limbs; the chest showed contractions throughout. Coma: respirations slow and stertorous, temp. 37·2; death 4·30.

Necropsy.—The only lesions—certainly anterior to the injection—were: Renal sclerosis and calculi; enlarged liver, with very numerous abscesses the size of a nut; spleen hypertrophied, several abscesses the size of a fist, thick, greyish white pus; several small abscesses in the lungs.

We could find not the least sign of congestion, of hæmorrhage, or œdema of the brain or its envelopes: on the contrary, they appeared rather anæmic.

Second Experiment.—On March 20th we received from the same source 455 grammes of colostrum taken from an affected cow, and on the 21st at 10.30 a.m. we injected into the jugular of a Flemish cow 280 c.c of the liquid, filtered, but containing numerous corpuscles of fat and colostrum.

About ten minutes later the cow staggered and went down. As in the preceding case, the temperature fell from 38·8 to 35·1 by four o'clock and returned to 38·4. Respiration went from 12 to 75, 80, and back to 32 by

* Read at the meeting of the Société Centrale de Médecine Vétérinaire, June 23.

four o'clock, and afterwards to 15-18. Pulse went up in half-an-hour after injection—"impossible to count"—then the readings were 64, 28, "impossible" again, 108, 148, at 8 a.m. next day, 68 at 4 p.m., and the following days 50-52. These conditions remained till 28th, when she was killed. The injection was followed by intense dyspnœa, ptyalism, grinding of the teeth, slight contractions of the muscles of the chest, diarrhœa. At 4 p.m. urine carried much albumen, but no sugar; the albumen steadily decreased in the following days. She took no food on the 22nd, and but little on the following days, was slaughtered on 28th.

Third experiment.—The 175 c.c. of the colostrum remaining was diluted in a litre of physiological serum, and after filtration (showing very few globules of fat and colostrum under the microscope) we injected 3 c.c. in the edge of the ear of a rabbit three months old, weighing 455 grms. During the 21st the animal showed no sign, it died in the night of 21st-22nd.

I am of opinion that these experiments demonstrate the presence in the colostrum of a toxic substance which caused the illness and deaths. Further, we see no evidence of cerebral embolism in the symptoms, and there was none in the autopsy of the first case, and I think that hypothesis may be abandoned.

Further experiments.—On May 13th we injected 500 grms. of milk very rich in fatty globules, previously filtered through fine aseptic linen, into the jugular of a Norman cow. The only succeeding symptom was a slight rise of temperature.

On May 13th, Norman cow. We injected into the jugular 500 grms. of milk, diluted in the same quantity of physiological serum. The morning temperature was raised 0·6, slight dyspnœa, and little appetite. No other symptoms in either of these animals.

On May 23rd, Norman cow. We injected into the jugular 250 grms. of the first colostrum milk from a Norman cow calved the same evening. The next day we injected 500 grms. of the colostrum received the previous evening. She showed only a slight dyspnœa.

Remarks.—If we admit the toxicity of the colostrum in cases of milk fever it does not necessarily follow that the toxin arises in the udder—we know that this gland eliminates many substances elaborated there or introduced by the different channels of absorption—but it should be remembered that the result of intra-mammary injections support the hypothesis of the mammary origin of the intoxication.

In the course of the discussion which followed, M. Dassonville pointed out that M. Delmer had made no cultures to show that the material injected was sterile, and it has been demonstrated that in a temperature of 15° C. milk will cool very slowly, and that in these conditions the multiplication of microbes is extremely rapid. If it were established that this cause of error is negligeable the demonstration of the existence of the toxic substance may be taken as accomplished.

M. Moussu thought it would be a strange chance if death in the first two cases was to be imputed to the multiplication of accidental microbes, that in the others this multiplication should be entirely absent. He would add, too, that perhaps colostrum does not behave quite as ordinary milk, and that henceforth he might claim that the findings of Camus, on the anti-coagulating properties of milk are inexact, in part at least, and that milk is sometimes an intra-vascular coagulant, of which the properties and results vary with the species and the individual.

M. Vallée: In the course of research undertaken with MM. Nocard, Roux, and Carré we have frequently demonstrated that the milk of certain cows, healthy to all appearance, possesses properties manifestly toxic. This milk, absolutely deprived of germs, carefully centrifugalised and filtered, when injected into the veins of healthy bovines is capable of producing fatal results. It is necessary therefore that in such experiments as those which M. Delmer has undertaken control experiments should be multiplied as far as possible.

Mr. Delmer: In human medicine it is known that in certain slight disorders the milk acquires toxic properties; simple gastric trouble in the mother, a slight febrile condition, a recent hysterical crisis, etc., may modify the composition of the milk and bring on in the nursling intestinal disorders, and even convulsions. In veterinary practice facts of this nature are less known, but it has long been known that the milk of females in œstrum possesses irritant properties, and Leblanc, of Lyons, several years ago, gave a very clear demonstration by feeding to puppies the milk from such cows. (*Nymphomanes*). Food also plays a part; Prof. Pinard cites cases of choleraic enteritis in suckling calves after the cows had been fed on the leaves of beet. It is perhaps possible that the phenomena observed by M. Vallée are attributable to some such influences.

In our last experiments the milk or colostrum was taken from cows kept at Alfort, and in which no morbid sign in any of the functions had been perceptible for several days before the injection.

The albuminuria, the convulsive phenomena, the coma, as well as the hæmorrhages and degeneration existing in certain organs, notably liver and kidneys, argue strongly in favour of the toxic nature of the colostrum in those bovines attacked by the nervous form of milk fever.—*Rec. de Méd. Vét.*

W. H. B.

Trypanosoma and Dromedaries.

Cazalbon, an Army V.S. in Timbuctoo, has noticed an enzootic among the dromedaries called by the natives *Mbori* or fly disease. The disease appears in the Sahara in January, February, and March among the animals in flooded districts where the Tsetse (*Glossina morsitans*) is abundant. He found a trypanosoma (*T. Brucei*?) plentiful in the blood in all stages of the disease.

The study of trypanosomata is of the greatest interest in comparative medicine. The group includes Surra in India, Nagana in Africa, Dourine in Algeria, Mal de Cadera of South America, and Galziekte of S. Africa.

Dutton has described a trypanosoma that produces an irregular remittent fever in man common in Gambia and on the Congo, and generally confused with malaria.

Castellani and Bruce consider the sleeping sickness of equatorial Africa to be due to a trypanosoma which though rarely to be found in the blood, is abundant in cephalo rachidnean fluid.—*Rev. Vét.*

F. E. P.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

The August meeting took place at the Royal Veterinary College of Ireland, Pembroke Road, Ballsbridge, Dublin, on Tuesday, August 23rd, at 8 o'clock p.m.

Members present:—Messrs. C. Allen (President) in the chair, B. P. J. Mahony, Maryboro'; E. C. Winter, Limerick; J. H. Carr, Kingstown; E. Wallis Hoare, Cork; A. Dobbyn, Waterford; R. H. Lambert, Dublin; P. J. Howard, Ennis; Prof. G. H. Wooldridge, Dublin; Prof. J. Craig, L. M. Magee, Prof. J. J. O'Connor, Dublin; J. Loughran, Ballygawley; J. McArthur, Southminster, Essex; Prof. A. E. Mettam, Dublin; F. C. Mason, Blackrock; R. Griffin, Drogheda; P. D. Reavy, Bundoran; W. A. Byrne, Roscommon; W. Watson, Dungannon; J. Mark, Newry; J. F. Healy, Midleton; and J. McKenny, Dublin, Secretary.

The following visitors were also present:—Messrs. J. J. Bell, Carlisle; L. C. Tipper, Balsall Heath; J. B. Martin, Rochester; J. Laithwood, Congleton; C. F. Parsons, Cheltenham; E. A. White, Dublin; E. O'Neill, Birmingham; G. P. Male, London; G. W. Tyson, Dublin; R. J. Collings, Exeter; F. G. Samson, Mitcham; J. S. Price, London; C. Roberts, Tunbridge Wells; A. Over, Rugby; J. Cameron, Berwick-on-Tweed; A. Spreull, Dundee; H. Gray, London; and S. H. Slocock, Hounslow.

The following members wrote expressing their inability to attend:—Messrs. F. W. Taylor, R. H. Holmes, E. B. McLay, C. J. Clifford, G. B. Miller, J. C. Kyle, W. F. Mulcahy, D. Hamilton, M. Hedley, R. D. Dove, J. Preston, S. Adamson, J. H. Norris, A. M. Crighton, G. Newsom, W. P. Cushnahan, J. F. Mahony, T. D. Lambert, Sen., and T. D. Lambert, Jun., P. W. Creagh, W. Chambers, and W. Cargill Patrick.

Election of Members.

Messrs. V. de V. Woodley, Aghinagh, Co. Cork; F. W. Emery, Belfast; and R. H. Johnston, Dundalk; were ballotted for and duly elected.

Report of Council.

Mr. President and Gentlemen,—In accordance with the suggestion contained in the last report of your Council, which you approved, a letter has been written to the Secretary of the Department of Agriculture and Technical Instruction for Ireland, relative to veterinary surgeons holding Government appointments practising privately, and the letter has been acknowledged with the remark that "the matter is engaging attention," but no further communication on the subject has been received from the Department by the Council.

For a considerable time the subject of the duties of veterinary inspectors under the Contagious Diseases (Animals) Acts has been under the consideration of the members of this Association, and acting on a resolution passed last October at a meeting of the Irish Central Veterinary Association, and submitted by the said Association to us, we appointed at the November meeting a committee of three of our members to confer with three members of the Central Association to consider the question. As instructed by you, our Secretary has written to the Secretary of that Association on the subject, but has not received any reply; therefore, so far as we know, nothing has been done by the conjoint committee.

The subject of "Specialists" is yet under consideration.

A scheme has been drawn up relative to the manner in which it would be advisable that veterinarians be appointed to hold similar appointments to those held by dispensary doctors, and immediately after this meeting the proposed scheme will be printed, and each member of the profession residing in Ireland will receive a copy, and be requested to furnish in writing to your Secretary their individual views on the subject, and we suggest that the whole matter be considered at the November meeting of this Association.

Your Council have considered the question referred to them in reference to the presentation of a medal, instruments, or other suitable award, by this Association to the most successful student of the Royal Veterinary College of Ireland on becoming a M.R.C.V.S. Your Council recommend that a medal struck (from a design chosen) in silver with gold centre be issued annually to the student who attains the highest marks at his final examination—Class D. The student, to be eligible, shall have entered, and during the whole of his College curriculum been a student of, the Royal Veterinary College of Ireland. The reverse of the medal to have the words "awarded to —— for having obtained the highest merit at the final examination —— (with date)." To attain this end, it will be necessary to purchase a die, and we suggest that five medals be struck, and the die with the medals be sent to the Secretary, who will hold them for the Veterinary Medical Association of Ireland. We suggest that the adjudication of the medal be left to "D" examiners of the Royal College of Veterinary Surgeons.

The medal to be presented to the successful student at the opening of the College in the following October by the President of the Association for the time being.

The correspondence with Messrs. Parke, Davis and Co., relative to the prices they charge for prophylactics, has not been satisfactory.

Your Secretary was instructed to write to the firm informing them that the members of this Association considered the proposals made by the firm could not wisely be accepted, and suggested that the firm should enter into a contract with the Association to supply the members with prophylactics on the same terms as supplied to chemists and druggists, the Association undertaking to inform the members of the agreement, and thereby no doubt secure their orders for the firm; however, the firm has not accepted the suggestion.

The minutes of the former general meeting and Council's report were taken as read, and approved of.

Prof. Mettam presented two specimens of cultures of the organism of necrosis.

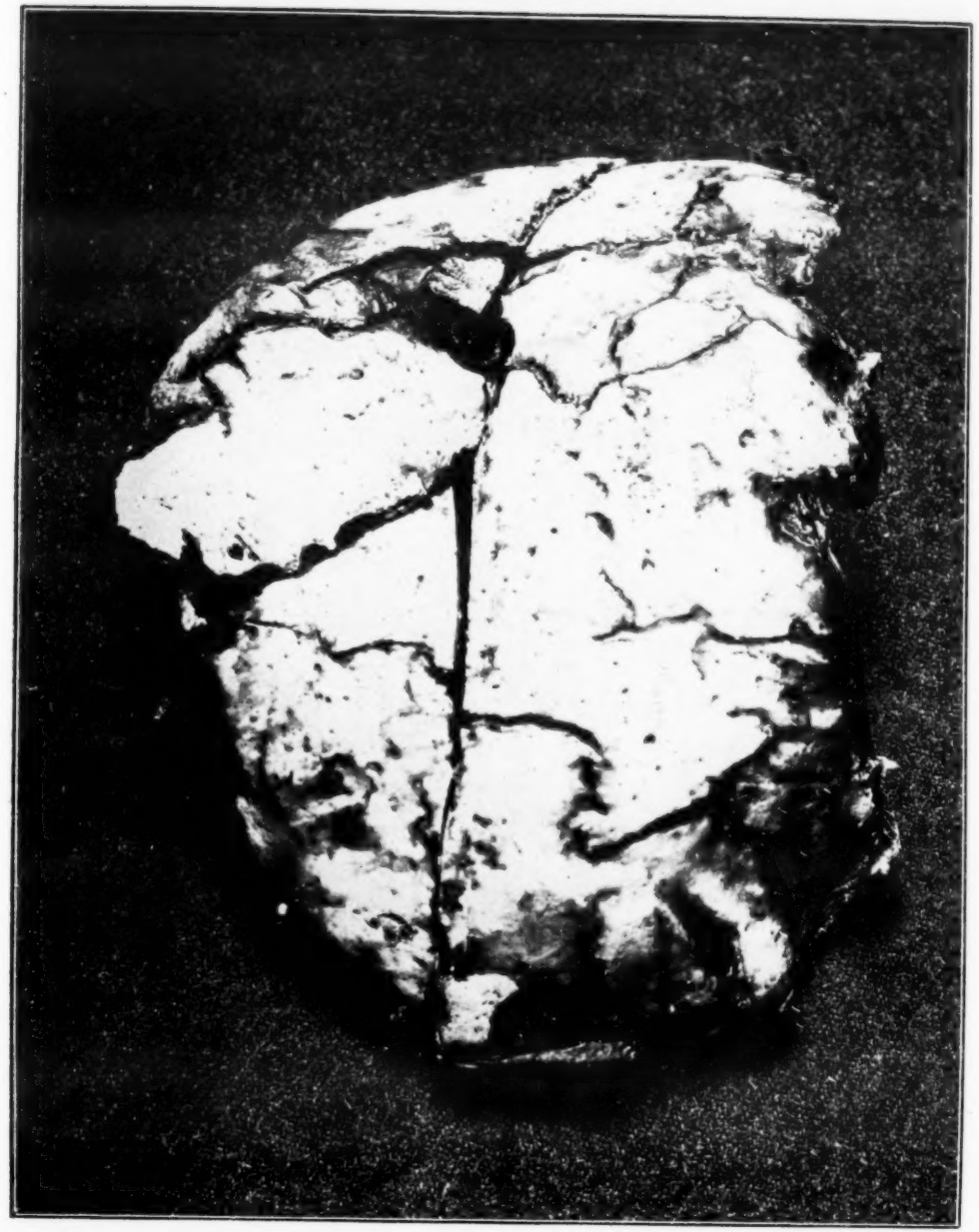
"QUITTOR."

Prof. J. J. O'Connor.

Mr. President and Gentlemen,—In acceding to the request to contribute a paper for this meeting of our Association I have chosen to deal with the subject of "quittor" because it is one of the commonest and most troublesome diseases of the horse's foot, and one upon which a discussion should prove interesting and instructive.

In order to understand clearly the nature of this disease and the *rationale* of its treatment an accurate knowledge of the anatomy of the region affected is necessary. The lateral cartilage and its relations are of particular interest.

This structure is a plate of fibro-cartilage having four borders, four angles, and two surfaces, and situated in the region of the quarter and heel. The upper border is thin and flexible and easily felt through the skin. The digital vessels pass this border at about its middle on their way to the foot. The inferior border is fixed to the wing of the os pedis in front, and behind it blends with the plantar cushion. The anterior border has an oblique direction downwards and backwards and blends anteriorly with the antero-lateral ligament of the coronopedal articulation. The posterior border is parallel to the anterior one and rests on the plantar cushion. The internal surface is convex, is related to the skin and



External Appearance.
Perforation caused by probe.

Side View.
A portion removed, showing cavity.

To illustrate Mr. J. C. Paton's note, p. 157.

coronary band and carries at its centre a plexus of veins which communicate through the cartilage with a similar plexus on the internal surface. This latter surface is concave and is united posteriorly to the plantar cushion, while anteriorly it protects the corono-pedal articulation, a *cul-de-sac* of the synovial membrane of the joint coming directly into contact with the cartilage at this point. The antero-lateral ligament is a fairly stout cord binding the os corona and os pedis together at their antero-lateral aspects.

The coronary band is a band-like structure situated between the lower ledge of the skin of the digit and the sensitive laminæ, and carrying on its surface a large number of small papillæ whose function is to secrete parietal horn. Its width is about ¾ inch, and its thickness about 1-8th inch. It is separated from the sensitive laminæ by a narrow smooth space. It joins the plantar cushion behind, and the whole structure fits exactly into the cutigeral groove at the upper extremity of the wall.

Quittor may be defined as a disease of the horse's foot due to necrosis of the lateral cartilage, for in all typical quittors this is found to be the case. It is only when this structure is affected that suppurating wounds of the coronet present unusual difficulty in their treatment.

Anything which exposes the foot to injury favours the production of this affection, such as bad shoeing, the use of sharp calkins or screws in frosty weather, working horses on streets covered with salt and snow, vices of conformation or of gait, and defects in the foot itself.

The most common exciting causes are contusions of the coronet accompanied by suppuration, and contused wounds of this region. It often occurs as a complication of a corn, of a sandcrack, or of a prick, or of a picked up nail owing to extension of suppuration from these conditions when a free dependent opening is not given to the pus. When the lateral cartilage is injured three results are possible (1) the wound may heal by first intention ; (2) it may heal by granulation ; or (3) necrosis may take place.

The first mentioned result is only observed in aseptic wounds where there is no loss of substance. Healing by granulation may occur when prompt antiseptic treatment is adopted. Necrosis is the most frequent result. Once started it extends slowly through the cartilage, generally progressing from above downwards and from behind forwards. This slow progress is due to the feeble vascularity of cartilaginous tissue and to the continuity of the escar with the healthy part of the structures. Separation of the necrosed islet of tissue rarely takes place spontaneously. The anterior part of the slough nearly always remains attached to the cartilage by means of a pedicle of varying size, whereby the agents of necrosis attack and destroy new portions of this tissue. When the disease is confined to the posterior third of the cartilage the necrosed area is much more likely to come away of its own accord due to cartilage being less homogenous in this region than in the anterior situation, being in fact distributed in somewhat isolated patches separated by fibrous tissue.

Symptoms.

The symptoms of quittor are very characteristic, the chief being an inflammatory swelling of the coronet localised in the region of the cartilage and presenting on its surface one or more suppurating points, the openings of sinuses emanating from the necrotic centre. When necrosis takes place the surrounding tissues become inflamed and markedly swollen, the extent of the swelling corresponding to the extent of the cartilage affected. The enlargement is generally first noticed at the heel where the disease usually begins. It afterwards extends forwards and when the affection is of long standing it occupies the whole of the quarter.

Pain, often not very marked, becomes accentuated when the necrosis attacks the anterior region of the cartilage or when a new centre of suppuration is produced. The opening of the sinus is often marked by granulations, but when these have been removed it is generally seen to have a funnel-shaped contour especially if it be old.

The discharge of pus is contiuous and it usually appears of an ichorous nature, trickling down the wall beneath the swelling. It may be blood stained, and exceptionally portions of necrosed cartilage are seen in it, recognised by their distinctly green colour. When the disease results from a suppurating corn there is often another sinus on the plantar surface of the foot, and if it be the consequence of a sandcrack a parietal sinus may be observed. The sinuses will vary in depth according to the distance to which the necrosis has extended, and they may be straight or tortuous, but they all converge on the seat of destruction. The direction and depth may be ascertained by means of a flexible probe, but when their course is very crooked it will fail to reach the bottom. Cicatrices are frequently seen on the posterior part of the swelling in old standing cases, representing sinuses that have healed. Other notable features are the deviation of the wall and the formation of rings on the affected quarter. When the quittor has been in existence for some time the coronary swelling causes an outward bulging of the upper portion of the wall, so that it projects over the lower part or takes a direction the reverse of the normal one. The presence of rings or rugæ in the horn of the affected quarter is a constant symptom in chronic quittors and it serves to reveal the age of the lesion when we remember that they date from the commencement of the interference with the function of the coronary band and that the horn of the wall forms at the rate of about half-an-inch per month.

Like the pain, the lameness which arises from quittor is in direct proportion to the gravity of the lesion. It is slight or absent when the disease is confined to the posterior or upper part of the cartilage, but when it arrives in the neighbourhood of the antero-lateral ligament or attacks the os pedis, the lameness is very pronounced.

Grave complications may follow 'quittor.' When it goes its course unchecked a time arrives when the antero-lateral ligament is attacked with necrosis, which may lead to its complete destruction and consequently to a fatal arthritis.

The latter complication might also result from ulceration of the *cul de sac* of the synovial bursa of the joint whose location has already been pointed out. The ulceration would probably occur more frequently were it not for the fact that under the influence of the inflammatory process the synovial membrane becomes reinforced by new fibrous tissue. Necrosis of the plantar aponeurosis may also be present in quittors which have resulted from suppurating corns.

Diagnosis of quittor is usually easy.

Its localisation in the region of the cartilage combined with its other symptoms prevent its being confounded with any other condition, such as suppuration in the hollow of the heel, due to the tendon being affected, a condition in which there is always great lameness.

In giving a prognosis we must remember that quittor is a stubborn thing to deal with. Sometimes it resists treatment for months. Its gravity depends on its seat. When confined to the posterior extremity of the cartilage its cure may be obtained easily enough by chemical agents. It is much more serious the more nearly it approaches the ligament or joint.

Treatment.

Cases of long standing generally require an operation, and even though this be successful in arresting the disease a permanent defect will result if a portion of the

coronary band has been destroyed. Sometimes a hyperæsthesia of the sub-corneal tissues persists after operation, but this can be remedied by neurectomy on the affected side. Great depth in the sinuses, abundance of pus and severe lameness are unfavourable symptoms. Sometimes even when the disease is extensive the lameness is not marked. To effect a case of quittor separation of the necrosed piece of cartilage must take place and the inflamed surfaces must granulate so as to fill up the cavities caused by the sinuses. The conditions under which this may occur spontaneously have been mentioned, but it is a mistake to count on this happy termination as a rule. Expectant treatment is apt to prove very tedious, or useless, or even dangerous.

Prevention of Quittor consists in the rational treatment of conditions likely to give rise to it, such as wounds and abscess on the coronet, suppurating sand-crack, suppurating corn.

In these cases a free exit should be given to pus and frequent irrigation with antiseptics should be adopted.

Generally speaking the treatment of quittor may be carried out in three different ways :

1. By means of the actual cautery or by solid potential caustics.
2. By the injection of caustic liquids.
3. By extirpation of the cartilage.

The passage of a red-hot iron into the sinuses so as to come in contact with the necrosed cartilage has often proved succesful. The heat of the iron turns the necrosed tissue into an aseptic escar which may then become detached. If the sinuses are too narrow to allow the iron to pass they must first be enlarged with the knife. It can be easily understood that the too deep or too long continued penetration of the iron might lead to perforation of the joint when the sinus has an anterior direction. Apart from this untoward result the injudicious use of the cautery might have the effect of destroying portion of the coronary band and of thus giving rise to false quarter. Solid potential caustics are used in the form of powder, paste or plugs. The agent most commonly employed is perchloride of mercury. The powder is wrapped in a piece of blotting paper which is folded in the shape of a cone, and then thrust apex downwards as far into the sinus as possible. To facilitate its insertion the opening may be enlarged by means of the bistoury or actual cautery. Some authorities always combine the actual and potential canteries. The paste and plugs of pure sublimate are applied in a similar fashion.

Other solid caustics which are less frequently used are copper sulphate, arsenious acid, and chloride of zinc. It is usual to apply a bandage over the swelling to maintain the caustics in position or to envelope the foot in a poultice with a view of hastening the separation of the slough which may take place in five or six days. Now, if the wound which remains presents a uniform pink appearance and does not permit of the probe to pass to any considerable distance beyond what seems to be its bottom, the treatment will have had the desired effect of removing all the necrosed tissue. But if there presents a yellowish or greyish spot in the depth of the wound, or if the probe can still be passed through a narrow passage, it may be concluded that the caustic has failed in its purpose. The treatment used to be spoken of as "coring." It has proved successful in the hands of many practitioners, but several eminent veterinarians, *e.g.*, Bouley, Leblanc, Renault have experienced its failure in cases where the sinuses were deep and tortuous and the anterior part of the cartilage had been affected. In these cases the cauterization does not reach the necrotic area. It is, moreover, a blind process in which one trusts to luck rather than to skill, and if it does not destroy too little it may destroy too much.

Liquid caustics have also been lauded as affecting the cure of quittor, the most common examples of these agents being saturated solutions of corrosive sublimate (in spirit), sulphate of zinc, sulphate of copper and chloride of zinc.

In 1847, Mariage, in France, published his infallible cure of quittor without operation, having had 42 successful cases in eight years. The liquid which he employed was Liquor Villati consisting of

Sulphate of copper	1 part
Sulphate of zinc	1 „
Acetate of lead	2 parts
Vinegar	12 „

Many other famous French veterinarians of the time used this preparation with great success. Cherry's liquid, corrosive sublimate 1 part and alcohol 10 parts, is favourably spoken of by many, including Williams in England, Moller in Germany, and Bouley in France. Bayer and others prefer Gamgee's Liquid

Corrosive sublimate	17 parts
Alcohol	140 „
Ac. Hydrochlor.	2-4 „
Acetate of lead	34 „

which has often brought about a cure in two weeks. Others have been successful with concentrated solution of ac. carbol. chloride of zinc. and perchloride of iron.

I think there is little to choose amongst these various liquids. Before injecting the fluid it is generally advisable to open up the sinus with the knife, taking care to direct its edge away from the coronary band. The injection should be made two or three times a day after the pus has been washed off with some warm water. To ensure the liquid reaching as far as possible in the sinus a syringe with a narrow nozzle which can be deeply inserted should be used. In old standing cases where the sinuses are crooked it is well to make a counter opening through the wall beneath the swelling and to insert a seton with the object of providing drainage and of allowing the liquid a better chance of "touching the spot." These caustic injections cause gradual destruction and removal of the diseased tissue, and by their powerful antiseptic effects prevent further inroads by the organism of necrosis. Suppuration and swelling gradually diminish and cure is affected in two to four weeks. But the difficulty here again is that it is not always possible to make the liquid penetrate to the required depth. Moreover, this method of treatment often has the disadvantage of aggravating the local inflammation and of causing great pain to the animal, which often offers so much resistance as to cause great trouble and to interfere with the proper carrying out of the treatment.

I have had experience of both of the foregoing methods, and have not been struck with their efficacy. They are dangerous when employed in close proximity to the pedal joint or the antero-lateral ligament. In these cases operation must be resorted to, a method of treatment which I recommend in all confirmed cases of quittor as being the most humane the most scientific and surest of success.

The operation I perform is the classic one described by Cadiot, and which I believe is a modification of an operation introduced by the famous French veterinary surgeon, Lafosse, in about the middle of the last century. It consists of thinning a great portion of the wall of the affected quarter until the laminæ are exposed, in incising the tissue between this upper extremity and the coronary band, in separating the latter and the skin from the lateral cartilage, and in removing this structure by the opening thus made. The day before the operation the foot and pastern should be thoroughly cleaned. The hair should be clipped to just above the fetlock, and the skin well brushed with a dandy brush. All loose horn must be removed with the knife, and the foot well scraped. This having been done the whole of the region mentioned is washed with warm water, soft soap and the water brush,

after which the skin over the swelling should be cleaned with ether or a solution of biniodide of mercury 1-500 of spirit.

An antiseptic is then applied, *e.g.*, 1-1000 corrosive sublimate, 2½ per cent. mykrol, or Jeyes', etc. Compress of tow soaked in the lotion is fixed over the site of the operation by means of a bandage, and a leather boot or clean piece of sacking. The horse is then put in a stall on a clean bed of straw. It is advisable to include the first step of the operation in the preparatory process. Make a groove in the wall extending from the anterior extremity of the cartilage downwards and backwards so that an area is mapped out whose width above is twice as great as its width below. Then remove all the horn within this area by means of the rasp and drawing knife. In addition the horn of the corresponding regions of the sole, bar and frog should be thinned. The horn must be removed as thoroughly as possible, particularly over the iegion of ihe coronary band.

The next day the animal is cast on the side opposite to the affected quarter, and local and general anæsthesia or a combinatiou of those produced, chloroform and cocaine being the agents used respectively.

I then have the diseased limb released from the hobble and firmly fixed by the canon bone of the upper hind or fore limb (according as the foot to be operated upon is fore or hind) by means of a soft rope. This method of fixing puts the foot clear of the bed in a convenient position for operating and for bandaging, and permits of very limited movement of the limb if the animal struggles.

The bandage and compress are then removed, the skin of the affected part shaved, and the site of the operation again bathed with an antiseptic solution. A rubber tourniquet is next applied just below the knee or hock. The instruments required are a right and left sage knife, and a double-edged sage knife, in each of which the blade is slightly curved and the edge convex, a sharp searcher, a probe, a curette, one dressing and a couple of artery forceps, a couple of retractors and a syringe. These having been boiled along with the materials used for dressing and sponging are placed in a tray containing a 2½ per cent. solution of carbolic acid and an antiseptic lotion, such as 1-1000 Hg. Cl_2, 1-600 Chinosol, 1-1000 Hg_2P. is required in different vessels for cleansing the hands as they get soiled, for using with the sponging material, sterilized cotton wool.

If there still be some horn remaining in the upper part of the coronet it must be removed with the searcher. In the second stage of the operation an incision is made by means of the single sage knife along the inferior border of the coronary band separating it from the podophyllous tissue. Commence in front, this incision is carried backward into the lateral lacuna and only goes through the membrane secreting the laminæ. In the third stage of the operation one of the single sage knives is inserted on the flat beneath the coronary band which it partially detaches from the cartilage, and throughout the whole extent of the incision. Towards the middle of this incision the double-edged knife is inserted with the convexity outwards, and swept backwards and forwards, separating the band and the skin from the entire outer surface of the cartilage.

The next stage of the operation comprises the extirpation of the cartilages. Pass a probe through the sinus and then have the band raised by a retractor to enable you to see exactly the direction of the sinus and to locate the seat of the necrosed tissue.

When the flap is raised the green necrosed cartilage is generally seen at once. Pass a right or left sage knife, according as as the quarter is left or right, upwards and backwards beneath the flap, turn it round the upper border of the cartilage and cutting from within outwards. bring the edge of the knife out at the upper extremity of the laminæ. In this way the posterior portion of the cartilage is removed. Now by successive strokes of the same knife remove the antero-inferior part of the plate, and having done this take the other sage knife and cutting from below upwards take away the upper anterior part. Great caution is required in this region to avoid opening the joint.

There will still be some cartilage left in contact with the wing of the os pedis, and if there be any suspicion of its being diseased it must be removed with the curette. If it be found that the bone is involved it must be scraped. The superficial fibres of the antero-lateral ligament may be darkish in colour, showing that the necrosis has attacked them. These should be carefully scraped, taking care not to go too deeply. The lining of the sinus or sinuses passing through the skin should be pared away. Great care must be taken that not a particle of necrosed cartilage is left in any part of the wound.

If instead of necrotic cartilage there be a sidebone affected with superficial caries, I saw it through at the upper extremity of the laminæ, insert a chisel into the groove made by the saw, lever it up, and then dissect it from the tissues beneath.

All dead tissue having been extirpated the field of operation is forcibly irrigated with an antiseptic lotion, so as to flush out pieces of debris. The tourniquet may now be removed and bleeding vessels ligatured with sterilized silk. Any spot that looks suspicious is touched with tr. I., and the whole wound is powdered with iodoform or with boric acid 9 and chinosol 1.

A little plug of sterilized gauze is placed beneath the flap to assist in stopping hæmorrhage and to act as a drainage tube, but its presence is not essential. The flap is then pressed into position, sprinkled with antiseptic powder, and covered with a thin layer of gauze, over which a good pad of sterilised wool is placed and maintained in position by a couple of sterilised calico bandages. The horse is then allowed to rise, and when up the foot is placed in a leather boot, or if this be not available enveloped in a piece of clean canvas or sacking and then enclosed in a casing made by plaiting two straw ropes and joining them in their centre at right angles to each other, the foot being placed at the point of juncture and the four ends being firmly tied round the limb, or a shoe may be put on and the bandage left uncovered, the horse being kept on clean straw.

If the bleeding vessels have not been ligatured the dressing will be found saturated with blood on the day after the operation. In this case it should be removed and replaced by a fresh sterilised dressing which may be left on for five or six days, provided that the animal displays no uneasiness and that there is no trace of pus oozing through the bandages. If on the morning after the operation the original dressing is free from moisture it may be left on for the period mentioned on the same conditions.

I have been in the habit of renewing the dressing daily after irrigating the wound with 1-1000 Hg. Cl^2., and dusting it with the powder mentioned, and in this way have obtained healing without any suppuration in three weeks. I don't renew the drainage plug after the second dressing.

The wound heals by primary adhesion in its upper part, whilst in the lower part where more or less of a cavity exists, it becomes filled with granulations. To secure this early healing in the upper region of the wound it is evident that a large plug must not be inserted, as it would prevent the skin and underlying tissue coming in contact. The plug must be small if used at all, and must be confined to the hollow part of the wound.

If the horse has been lame the lameness will be decidedly improved in six or seven days after the operation, and in the course of the third week he will be almost sound. At about the end of the third week the wound will be completely cicatrised and should then be smeared with Archangel tar and covered with a little tow and a

short bandage also impregnated with tar. The new wall from the coronary band grows down over the cicatrix having a depth of about ½ inch at the end of a month. If the wound be not healed before this growth of horn takes place the latter must be thinned, otherwise it will interfere with drainage and lead to abscess formation on the coronet. When the healing process takes the favourable course described as it should do when the operation has been carefully performed the horse will be fit for work in four weeks. The tar dressing should be continued until the horn has grown almost to its full length. The bandage may be replaced by a piece of leather strapped round the foot.

By accident during the operation the antero-lateral ligament may be severed, or the joint may be opened. If asepsis be observed these accidents will not be of serious consequence, but if the wound become septic they may have a fatal result. Should the new horn from the coronary cushion descend at a distance from the laminæ a space will persist beneath the new wall. This is likely to occur when a too large pad is placed beneath the flap pushing the coronary band out of its place. The separation may cause lameness which may be remedied by thinning the horn.

Sometimes I believe lameness results from hypæresthe ia or ossification in this cicatrix, and it may be relieved by firing or neurectomy.

Some authorities modify the operation by dividing the flap into two halves by a vertical incision passing through the coronary cushion, the object being to expose completely the field of operation, but it has the disadvantage of resulting in a narrow false quarter, which is really a sandcrack, that may became infected and lead to a recurrence of the condition. Besides the pin sutures required in this case frequently cause sloughing of the skin on which they press, thus giving rise to an ugly wound.

Operating from above without interfering with the wall is a method advocated by some practitioners. It is very difficult to get to the bottom of the cartilage in this way, and in endeavouring to do so the coronary band may be ignored or the synovial *cul-de-sac* perforated. Another modification which is regarded as being very successful is that known as Bayer's operation. He removes a semi-circular piece of horn from the upper part of the affected quarter, exposing the coronary band. Then a little to the inside of this semi-circle he makes an incision along the anterior, posterior, and inferior borders of the cartilage to be removed thus cutting the skin and coronary band in two places and the sensitive laminæ. The flap thus marked out is detached from the cartilage, which is then completely removed. The sinuses having been scraped and the wound powdered with iodoform the flap is replaced in position and united to the adjoining edges by sutures. This operation is extensively practised in Berlin and Vienna. It renders the horse fit for work in four weeks. Two false quarters, however, must result from this method, and the insertion of sutures must be tedious and troublesome.

Recently a case was described in *The Veterinary Record* in which cure was obtained in 16 days by removing the cartilage by scraping it out through an incision made above the coronet and by making a hole in the wall opposite the bottom of the cavity thus made, in which a drainage tube was inserted to give exit to discharge. This procedure is similar to that of setoning.

Discussion.

Prof. Wooldridge did not wish to say very much in connection with the paper. However, there were one or two points he would like to raise. In the first place they should congratulate the Essayist on the very lucid way in which he had treated his subject, and particularly the way in which he described the operation he had so strongly recommended. He had an opportunity of seeing him perform that operation and watching the results, and they had been very gratifying indeed, and reflected great credit on the operator. There was one matter on which he disagreed with the essayist, and that was as regards the definition of quittor. If the speaker understood rightly Prof. O'Connor would not include any condition under the term "Quittor" unless there was disease of the lateral cartilage. Now the definition he (Prof. Wooldridge) would prefer is that quittor is any sinus of the foot, and irrespective of whether the lateral cartilage is affected or not. It was quite possible to get quittor in which the lateral cartilage was not diseased, and consequently in those cases it would not be necessary to perform the operation he had described. In the early part of his paper he suggested plantar neurectomy in instances when hyperæsthesia follows the treatment of quittor neurectomy of the seat. That was a dangerous proceeding. There was always danger of Quittor breaking out again; and if the horse was unnerved the damage would advance very considerably before they had any intimation whatever that the case was going the wrong way. In cases to be treated by injection Prof. O'Connor had suggested injecting two or three times a day: rather a tall order—especially for a busy man. He did not think so frequent injection was at all necessary if thorough—the material sufficiently powerful in the first place. As regards the fact that there were no dead horses at O'Keefe's this week he did not know whether it was due to the large number of veterinary surgeons at present in Dublin. (laughter), or perhaps the more likely explanation was that the practitioners were at present too busy enjoying themselves to kill any horses. (Laughter.)

Again referring to the operation described—as far as he could see Prof. O'Connor always recommended the removal of the *entire* cartilage. It appeared to him that that was quite unnecessary; the diseased portions might be removed, and the portions in their immediate vicinity, leaving the remaining healthy cartilage. When reference was made to removing the skin of the coronary band it had flashed across his mind that there might be danger of the production of false quarters. Where the band is cut there will always be a breach in the horn which will afterwards grow. He imagined that milder forms of treatment might be equally successful in many cases. There was an article in *The Veterinary Record* of the previous Saturday by an American veterinary surgeon with reference to the treatment of fistula. It savoured rather of the treatment of abscess cavities. The conditions were sores on the back produced by ill-fitting harness, and might easily develop into fistula if left alone. He recommended Biniodide of mercury inserted into the cavity with cotton wool removing the pus, and so salve the edges or surfaces of the wound. The same treatment might be adopted with advantage in some of the early cases of sinus of the foot such as might result from accidents, treads, etc.

Mr. McKenny said he should first of all thank Prof. O'Connor for his valuable paper, and thought most of them would contribute to the discussion that night. He agreed with Prof. Wooldridge that the definition of Quittor given by Prof. O'Connor was most imperfect. To define it as "disease of the foot" was unsatisfactory, as they had many diseases of the foot, and surely to perform the operation of removing the cartilage for navicular and many other diseases of the foot not involving the lateral cartilage would be an unheard of thing. He thought it was a little slip, and nothing more. However, if what was stated in the paper be accepted, then it was absolutely necessary for the cartilage to be diseased to constitute quittor, and that would be incorrect. Indeed Mr. McKenny considered that a sinus or sinuses occurring in the vicinity of the lateral cartilages was only a symptom of many ailments of the foot, each re-

quiring different treatment; as for instance in one case that occurred to his mind—a horse that had been treated for over twelve months for quittor was sent to him in a float, as it could not walk, and on probing the sinus he (Mr. McKenny) discovered a foreign body. He dilated the orifice by making a good big incision, and found the basilar and retrossal processes of the os pedis had been fractured; he removed them, and afterwards treated the case as an ordinary wound, and the horse was able to go to work in three weeks. Most of them had heard of Prof. Ferguscn, and many of them had known him personally. He (Mr. McKenny) had the pleasure of being appointed under the Contagious Diseases (Animals) Act as Prof. Ferguson's assistant, and of seeing him frequently operate. He (Prof. Ferguson) was supposed to have beeu the best operator of his time, and on several occasions when Mr. McKenny was present, the Professor removed the entire cartilage; but Mr. McKenny might say the results were so frequently unsatisfactory that he had not himself advocated it as a general treatment, but found it occasionally necessary. Professor O'Connor had said that if you open the joint, if it is aseptic you need not mind, it was not of much consequence. On this point he (Mr. McKenny) entirely disagreed, and it appeared to him that Prof. O'Connor conveyed the idea that if the operation failed you might blame yourself that you had not taken sufficient precautions in that respect, and of course when you have a recovery all credit must be given to aseptic surgery. The horn, Prof. O'Connor told them, grew at a certain rate—half an inch per month; yet in three or four weeks after the operation the horse is fit for work. In Mr. McKenny's opinion, it would take as many months, certainly not less than two or three months after such an operation before the animal would be fit to work. By the manner in which the operation was described, one would be led to think it was a new business, whereas it really was very old.

As regards diagnosis, Prof. O'Connor made it very easy, if you accept that when you saw matter running down the foot it was a quittor. That was one mistake that they made to treat as if it were one disease, whereas it was an accumulation of diseases with one symptom—a sinus or sinuses of the foot. It was a mistake also to say the treatment for quittor was so and so. He (Mr. McKenny) treated hundreds of horses for quittor—and successfully—by various means for special cases, but when in doubt adopted the simple means of applying corrosive sublimate, not applied by means of the paper cone as described by the essayist, but using broken pieces of the agent, and getting them in as far as possible and anywhere they could be inserted, and putting plenty of it in powder in along with them. He believed the great success lay in making a good big long incision so as to get all the sinuses, an incision along the top of the cartilage, and then pack it with sublimate, get in all the corrosive sublimate you possibly can. In that way you get at the whole of the diseased part, whether it was posterior, anterior, superior, inferior, cartilage, ligament, integument or bone. You got at all the diseased structures (laughter and applause). The essayist had told them that as regards prognosis it was unfavourable if the sinus was deep, and the pus copious. He (Mr. McKenny) really thought they ought not to call it a quittor at all unless these conditions actually existed. If there was very little pus, and a small sinus not very deep, surely they would never dream of removing the lateral cartilage. As regards treatment, the thinning of the wall, as described, seemed a very difficult operation but in reality it was a very simple one. A V shaped incision should be made with a sharp hot iron at the terminal ends of the piece that they wanted to take out, thin the sole below, take hold of the piece with a strong pincers, shut your eyes, exert all your force to remove the piece of wall, and then off it came as clean as a new pin. (Applause).

It was really somewhat extraordinary, but he had never known anything but the wall to come away, and the laminæ remained exposed beautifully, nothing else would come away if they cut deep enough. They should not leave bits of the horn on the sensitive laminæ. As regards the period after an operation when a horse would be fit for work, Prof. O'Connor mentioned three weeks, but did not specify the class of work. He (Mr. McKenny) thought that at the expiration of the period named, it would want to be very light work indeed.

Mr. T. S. PRICE (Kennington): I am very pleased to be present at the Dublin Veterinary College, especially to hear the very able address delivered by Professor O'Connor on Quittor.

Quittor in the horse is a very common disease, and by some veterinary surgeons is classified as very difficult to treat. Many members of the profession go in for such severe treatment as using the actual cautery, strong caustics in the shape of bichloride of mercury, or chloride of zinc, coring the sinuses out, freely using the knife, and at times even removing the lateral cartilage. I have abandoned all this kind of treatment many, many years ago. I have a large practice in London, principally among cart, omnibus and cab horses. These are the animals that, as a rule, become the victims of this disease. I should think, upon an average, for the last ten or twelve years I have had about 30 to 40 cases every year. And when I say quittors, I mean quittors, with sinuses running into different parts of the foot, not merely festered corns breaking out at the heel, but quittors in the true sense of the word.

When an animal is brought to me with a quittor, and I find he is pawing about with pain and evincing a lot of inflammation, I syringe into the sinus a weak carbolic liniment, allowing two or three days interval before repeating, and if I find that the inflammatory action subsides and the animal is in less pain, I then inject a saturated solution of sulphate of zinc, allowing some three days to elapse between each injection. I like to have all the shoes off and place the animal in a loose-box, and after injecting with this solution three or four times, I generally put a strong blister upon the affected part, and in a month or six weeks as a rule the horse is cured.

I scarcely ever poultice horses affected with this disease, but at the same time I do not say an occasional poultice is bad treatment. At times I find it is necessary to take away the inside or outside quarter of the foot, but I never do this unless it is quite ripe and ready to come away. I do not believe in tearing or pulling the crust as I have seen some do. You may depend upon it the gentler you are with the foot, the quicker progress you will make. Beyond this I never think of cutting, or removing the lateral cartilage, or using hot irons. In my opinion the generality of practitioners are too severe in their treatment of quittors and do not give their particular treatment time enough to effect a cure. They change the treatment too often. I strongly recommend you to try what I recommend, and I think you will be pleased with the result.

Mr. WALLIS HOARE thought there was one point which had been overlooked in the discussion, and that was whether a horse suffering from quittor was worth the cost of treatment. He had lots of these cases, and the question usually asked was—Will the horse come workably sound? There were cases which the most expert veterinary surgeon could not bring to a successful issue and these were the cases in which extensive lesions were present, and the deep structures of the foot were involved.

The operation described that night had been performed for several years. No doubt the entire lateral cartilage had not been removed but portions of this structure were removed piece-meal, and this he had carried out on several occasions. He often advised city clients to sell

horses suffering from quittor to farmers, who worked them on soft ground and left them out at night. Very often after six months such horses were working perfectly sound. Nature had affected a cure by her own methods. As regards the coronary band—he had cut it on several occasions and had not experience false quarter as a result.

The treatment of quittor was essentially surgical, and he thought the foot was a structure that could be operated on with impunity, the results with reference to expense and practical utility were what they had to fear. With reference to the accident of opening the coffin joint during the operation, which the essayist seems to think little of provided aseptic measures were carried out, all he could say was that if the structures around a quittor could be made aseptic, he (the speaker) had yet a lot to learn on the subject.

Prof. MASON (Blackrock) said the subject of quittor was one in which he was very much interested, as it happened to have been the subject on which he wrote his paper when at College, and he had in his mind's eye a number of cases, at one of which he had been present with his friend Mr. Lambert (he hoped he would'nt mind the mentioning of his name), one in particular was that of a horse belonging to a client sent to him, and as he preferred to have the advice of an older hand, being at that time recently qualified, he had consulted Mr. Lambert, who operated. The operation was a modification of that described that evening, the horse was cast, the horn thinned and the wall removed, corrosive sublimate applied, bandage put on, and not touched for four days. The instructions were carried out religiously, and in about three weeks time the horse was back at work sound, and had remained so ever since. Mr. McKenny had attended a case with him and there performed the heroic operation he described. It gave him the horrors when he saw it done. He took the horn in a pair of shoeing pincers and, as he said, used plenty of force. The operation was quite successful. The pony was afterwards presented to him (Prof. Mason) and he kept her for four years. In that instance it was a case of diseased bone. He remembered one of the Professors at the Dick College performing an operation for quittor in which he opened the upper bursa as described, flooded the synovia, dressed with iodoform, and bandaged. Some of the members present were students at that time and they might remember the case. As regard Bayer's operation, Prof. Mettam and myself had an opportunity of seeing that beautifully performed in Denmark some years ago. The whole of the sensitive laminæ was reflected upwards, and the coronary band lifted, and afterwards stitched as Prof. O'Connor had described.

Mr. W. A. BYRNE was glad to say he had very little experience of the disease under discussion, because his practice lay principally among hunters, and fortunately they had not much knowledge of quittor among that class of horse. He felt bound to join in the chorus of congratulation to Prof. O'Connor for his excellent paper, and he did not think that any of his Irish friends need be ashamed of the paper placed before their English visitors that evening. He would also like to refer with much satisfaction to the suggestion of thoroughness in their practice which the paper makes. He had not found it necessary in his general practice to undertake the serions operation which the essayist had so clearly described, because his cases were not usually so bad, and they yielded as a rule to much less heroic treatment than had been indicated. Incisions were sometimes necessary in cases due to accidents, and he had not found that false quarters, or serious injury to the soundness of the hoof followed these incisions. His practice for a considerable period had been to apply an injection of a strong solution of perchloride of mercury, and to push in some powder of the same with tow, keep it in its place with a bandage, and let the horse be quietly stalled. He had rarely found it necessary to remove the cartilege, and was certainly unwilling to entirely remove the lateral cartilage, the blood vessels would be so subject to injury afterwards and the horse as a hunter would be practically valueless. He thought a great deal of the disparity that was revealed between the practice of their friend Mr. Price and that existing in their country might be due to the higher intelligence of English clients leading them to bring their cases to a veterinary surgeon in their early stages when treatment was more likely to succeed. He did not think that Mr. Price would have the same experience if he lived in Ireland, where all the handy men and quacks and "gaudauns" had a try at the cases before they were sent to a veterinary surgeon. He would like to express his indebtedness to Prof. O'Connor for his very clear and able paper, and for the strong indication that he threw out to them that they might try and do their practice more thoroughly, and in a more scientific manner.

Mr. WINTER could not help thinking that the paper had gone too much into detail. Unfortunately his clients did not call in the aid of a practitioner as early as they should, and the quittors he had to deal with were generally serious ones, and he found the gospel according to McKenny was the best to practice. He agreed with what Mr. Hoare had said, that in surgery they could not be too careful. Everything diseased should be taken away and everything suspected. If the slightest trace of diseased tissue were left further trouble was sure to result. He knew of half a dozen horses which had had the whole of the quittor removed, it was absolutely necessary, and two inches of the coronary band had been taken clean away. The horses should have two or three months rest and two or three months work on soft ground, and they will become practically sound and useful animals. In England they got the quittor in the early stage because they could afford to charge three or four times a smaller fee than practitioners in their poor country had to charge. Any mild treatment would effect a cure in the early stages of the disease—whether you call it a caustic or an astringent. He thought the paper had most successfully achieved one of its objects in provoking a very good discussion which he hoped was not half ended.

Mr. SPREULL (Dundee) first of all begged to thank the essayist, who had given them a very able paper. When he began practice 35 years ago or thereabouts the disease under consideration was quite common, much more common than it is now, and he had put practically all the operations described into use and with greater or less success so far as the healing of the wound was concerned, but he did not agree with the speakers who referred to the three weeks cure, he thought three months more like it, by which time the patience of our client was usually exhausted, unless the animal was a valuable one. He did not approve very much of using caustic so freely as some speakers do as a rule, and Mr. McKenny's methods, if not misunderstood by him, were altogether odious to him. In many cases, however, caustic might be used with advantage if there was a small opening, and a very deep tortuous sinus. He believed a caustic plug is the best method in such cases, and it was best worked in this way, make a conical shape plug of 5 grs. each corrosive sublimate and arsenic wrapped in thin paper, then put in the plug as far as possible into the sinus and put on a bandage to keep it in, and apply a poultice over this. The slough which is brought out makes a very simple wound of it, and particularly when you expose the underlying diseased structures. In many cases quittor was not so much the result of diseased cartilage as stated by the essayist as of diseased bone, or of faulty shoeing, pricks, corns, sandcracks, seedy toes, and horny growths "keratoma," and he had taken out the entire alæ of the os pedis both basilar and retrossal processes in one large mass as

large as a pigeon's egg. No amount of caustic could ever reduce that, nothing but the knife could remove it. The matter of antisepsis was of comparatively little consequence in such cases, the diseased area should be thoroughly emptied of the diseased structure whatever that might happen to be, and after that kept scrupulously clean ; that was his idea of the treatment of quittor of that kind. With regard to the coronary band, some of the members who spoke seemed to think it was improper to cut it. He considered it was of very little consequence, they might cut it as freely and as frequently as they liked if they got to the seat of the diseased structure and removed them, then put the cut edges in position, and apply a bandage. A suture was not necessary, as it cut its way out and simply aggravated the condition of the wound. With regard to the impossibility of healing a joint in this region that had become septic he must say he entirely disagreed with one of the previous speakers who looked upon it as impossible to heal. He had repeatedly healed such wounds that had resulted from picked up nails. He certainly had many cases of open coffin joints, or open navicular joint as the result of gathered nails which had yielded to the application of a strong solution of carbolic acid, one in four, and he had succeeded in closing these wounds and healing them. He quite approved of Mr. Price's method as far as it was possible to carry it out, though he believed fully in the knife when necessary and used conservatively. There was a point mentioned by Mr. Hoare, who said a great many of quittor cases were really best treated by being sent out to grass or sold to farmers who worked them on soft ground, he could quite homologate that statement, as in these circumstances the thing gradually cures itself, the main agent in the healing of many of the cases after the removal of diseased tissues was nature.

Mr. CARR wished to thank the lecturer for his very able, lucid paper, especially for his description of the operation. It they examined their conscience the first question they would ask about the majority of cases of quittor, about Dublin at any rate, was "Was the game worth the candle?" If they told a client honestly that they were about to remove the lateral cartilage and that it would take six months to effect a cure, he would probably say that it would be better for him to sell the animal and get what he could for him. That was his experience. They nearly always sold to farmers, and in six or seven months they as likely as not got alright. The last case of quittor he had he tried an injection of chloride of zinc. He also tried plugging with corrosive sublimate—or as his old foreman called "corrosive supplement"—but did not find them very successful. He got pretty sick of this case and then got an antiseptic ointment and left it on for three days, and renewed it twice, the case got all right in a very short time. They did a lot of queer things when in trouble. He had a case at present which, according to Professor Wooldridge's definition was quittor ; he, however, thought it was a recurrent one. All the symptoms of quittor were there, the sinus, discharge, and so on. He treated with antiseptics, put the foot in hot water, in a week or a fortnight got all right, and the animal worked well and then got bad again. He thought there were not many practitioners who would go to all the trouble detailed in the paper to treat a case of quittor.

Mr. CHARLES ROBERTS (Tunbridge Wells) could only refer in eulogistic terms to the paper, which was excellent and worthy of the highest praise. Mr. Price had a very fortunate record, but he (Mr. Roberts) considered he had been very lucky with this disease, since for five years he had not seen a single case. It seemed to him that whether the cartilage was affected or not made no great difference to the treatment. If the trouble was caused by the necrosis bacillus the necessary step in treating the disease was to get rid of that organism, then its effects would cease. If the bacillus had gained access to other structures than the cartilage, and to those only, then it was not essential that the cartilage should be removed. Until Mr. McKenny had spoken he (Mr. Roberts) was almost running away with the idea that the disease was caused only by the necrosis bacillus. That, of course, was not the case. For instance, a case came under his notice in which suppuration broke out at the coronet of an unnerved foot. It was thought that the usual trouble was coming viz., that the hoof would come off, and that the horse would have to be destroyed. Treatment was proceeded with, however, and a sinus formed. After a time it was discovered that the basilar and retrossal processes were fractured from the pedal bone. These were removed and the case did well, and the horse was known to work for at least ten months after. This might have been called a quittor, but the cartilage was quite healthy and pobably the bacillus of necrosis took no part at all. Regarding open pedal-joint, he did not see why recovery should not take place. He was a believer in cold water continuously applied to cases of open joint and he would certianly employ it in cases connected with quittor.

Mr. F. G. SAMSON (Mitcham, Surrey) wished to contribute his share of thanks to Prof. O'Connor for his excellent paper: the time and trouble to produce such must have been very lengthy and laborious. He (Mr. Sampson) looked upon quittor as a fistula, in some cases simple, in others complicated, particularly when there were two or more openings around the coronet. There is one class of quittor the professor did not mention, viz., injury to the coronet by frost cogs. Another cause is improperly treated suppurating corns. As to treatment he considered his friend Mr. Price has been very fortunate in curing such a large number of cases so quickly and easily. He was inclined to think many of the cases were like the cures of cattle plague by a medical man in Norfolk many years back, they were not cattle plague at all, and he thought that some of Mr. Price's cases were but simple wounds. The operation described by the essayist might or might not succeed. He once performed the operation in one of his father's horses and it took him over three months to get him to work again. He was severely called over the coals and ordered not to operate in that manner again. He really did not see how an animal could be got to work in the short time described by the Professor. He did not think any definite time of treatment could be laid down, as the causes and description of quittor varied so much. When arising from neglected corns they were mostly easily cured if a large free exit and slough was got from the sole of the foot by the application of Hyd. Bichlor. He agreed with a former speaker that many cases got well when the animal was turned out to grass, but that treatment was not scientific, and they could not get much of a fee for it (laughter.) Clients require something for their money, and quite right, too. Therefore let them have something done in some form or other. The complicated cases require good sound judgement and diagnosis before operating on, as scarcely two are alike, and it was wise to sleep over the case and have another good examination before operating. Simple quittors are generally successfully treated by a free opening with the knife and then astringent injections, etc. In many cases harm is done by the attendant forcing the point of a syringe too far into the sinus thus making the part bleed and breaking down the soft structures internally. He would caution anyone against using arsenic, as it was liable to cause a slough much larger than expected and leave a very ugly looking wound which would take a long time to fill up and heal over.

Prof. CRAIG said they were all indebted to the essayist for his most interesting paper on quittor, a disease common in ordinary practice and therefore of interest to all veterinary surgeons. In the beginning of this paper he referred to the anatomy of the horse's foot, and naturally

he was much interested in that branch. One point was not brought out with sufficient emphasis, and that was with regard to the relationships of the lateral cartilages. He spoke of the skin and of the coronary band as being related to the outer side of the lateral cartilage, but he didn't show the connection of the sensitive laminæ, which was to a large extent attached to the side of the cartilages. That point was important owing to the fact that extirpation of the whole of the lateral cartilages cannot be thoroughly carried out without a portion at any rate of the sensitive lamina being involved. The operation recommended by Prof. O'Connor, and which he had successfully tried, did not permit of the total removal of the cartilages. Bayer's operation did. In that operation a portion of the sensitive lamina and the coronary cushion were uplifted. He was inclined to think that it was really seldom necessary to remove those cartilages entirely ; the diseased portions only need be taken away, and these according to the essayist were easily seen. Mr. McKenny, in his criticism on the paper, appeared to think that four weeks was too short a time to put an animal to work after the operation was performed, because, as he stated, the hoof does not grow very rapidly. He had observed when he had removed any portion of the hoof from the foot that a thin pellicle of horn very shortly appeared and that of itself would protect the underlying tissues. If the healing process went on as in the case described by Prof. O'Connor then the horse might perhaps be put to work in the short time he referred to, but unfortunately the healing did not always proceed at that rapid rate. Some of the speakers had referred to the great danger of after ill effects, such as false quarters, succeeding on incisions of the coronary cushion. He had made such incisions and removed portion of the cushion and had never seen such ill effect to arise. Mr. Price had been fortunate in his practice because evidently his cases were recent. He (Professor Craig) had unfortunately sometimes to deal with old-standing cases, the only treatment for which was a surgical one.

Prof. O'Connor thanked his critics for the complimentary terms in which they had referred to his paper. He forgot to mention that he was indebted to Mr. White, a recent graduate of that College for having prepared the excellent lantern slides which he had shown them. He had looked forward with great pleasure to the discussion on this subject by so many eminent practitioners. He learned from it that the experience of most of them coincided with his own, for they had all met with some cases in which the caustic treatment has been successful and with others in which operations had to be resorted to. Now some had failed with the latter treatment, and he firmly believed that their failure was due to the operation not being thoroughly carried out, some dead tissue being left in the wound. He had one such case himself in which he operated and got a recurrence of the disease for which treatment with liquid and solid caustics proved useless. So he re-operated and removed a tiny portion of necrosed cartilage which he found in contact with the wing of the os pedis and hidden by the laminæ. Recovery followed in four weeks afterwards when the animal was discharged for work. As regards Professor Wooldridge's definition of quittor he (Prof. O'Connor) did not consider that a sinus on the coronet which did not involve the cartilage was worthy of the name of "quittor" as it was a comparatively simple affection which responded to ordinary antiseptic or slight caustic treatment, in fact healed like an ordinary abscess cavity. He did not insist on removing absolutely the whole of the cartilage, but when it was extensively diseased incision of the affected portion was practically equivalent to removing the entire structure. He would certainly remove as much of the healthy cartilage as could be done conveniently as it would lessen the risk of a recurrence. It might not be altogether necessary to repeat the injections as often as he mentioned, but he thought it advisable when adopting this treatment to carry it out as thoroughly as possible. He did not advise neurectomy for a quittor which was not completely healed, as Professor Wooldridge seemed to think, but for a case following operation and cicatrisation in which hyperæsthesia of the cicatrix was evident. Of course, as usual, Mr. McKenny did not believe in asepsis.

Mr. McKenny explained that his attitude was that he thought it wrong in case of an operation failing to put it down to the fact that the asepsis must not have been perfect.

Prof. O'Connor said that he did not approve of the stripping off of the horn in the way suggested by Mr. McKenny, but preferred leaving a considerable amount of thinned horn on the lower part of the area referred to in order to act as a protection. This and the laminal and coronary horn formed in the upper part aided by a dressing of tar, rendered the horse quite ready for work in four weeks when the operation had been skilfully performed. Mr. McKenny defined "quittor" as an accumulation of diseases of the foot; but that would not be a correct definition as it might include all sorts of things, *e.g.*, picked-up-nail, navicular disease, etc. He was greatly surprised to hear that Mr Price had been so successful with the use of zinc sulphate. He must have got his cases very early indeed, before the cartilage had become involved, and when the condition was of the nature of a simple abscess cavity when, of course, his success could be easily understood. With regard to Mr. Hoare's opinion that quittor is not worth treating he (Prof. O'Connor) thought that when a cure could be generally obtained by operation within two months it would be worth trying on a valuable horse. Quite recently he operated on a very bad case of quittor in a carriage horse which was very lame, and as a result of the operation the animal was sent out sound towards the end of the fourth week, ready for work. As to turning horses out to grass when suffering from quittor of course nature might effect a cure in some of these cases, but it was very risky and certainly not professional treatment. Several of the speakers seemed to think that there was no danger of ill results from cutting through the coronary band. Now he thought it must lead to a defect in the wall and should therefore be avoided.

Mr. Winter thought he had gone too much into detail, but when he was studying a subject he always liked to get to the bottom of it, to make sure of the foundation and to take nothing for granted. Like Mr. Winter he had been successful by passing the hot iron right through the sinus from the coronet to the plantar surface of the foot when the quittor was posteriorly situated, but he believed there would be grave risk of perforating the joint in adopting this treatment for a sinus in the anterior region of the quarter.

Several speakers questioned what he said about the cartilage being affected in quittor. He thought it hardly possible to have an old, deep sinus in the region referred to not involving the cartilage, a structure which is most susceptible to necrosis. Mr. Roberts said it did not matter whether the cartilage was affected or not, but he thought it mattered a great deal. If the cartilage were not diseased cure could be easily obtained by chemical agents. As regards the cold water treatment, he thought it might go on until Doomsday without good effect. Prof. Craig reminded him of having omitted an anatomical detail, viz, the attachment of the laminæ to the lateral cartilage, and that the latter could not be entirely removed without removing the laminæ, but it was not essential that this portion of the cartilage should be removed unless it was diseased, when the laminæ in contact with it would also be affected and require excision.

Mr. Roberts wished to remove an erroneous impres-

sion that seemed to have been created. He had not intended to convey that he would treat quittor with cold water: nothing so foolish. He simply meant that if the joint was opened during an operation he should apply cold water treatment *in addition to* the ordinary treatment that was going on.

Prof. WOOLDRIDGE proposed a vote of thanks to the Essayist, which was seconded by

Mr. BELL (Carlisle) who had listened with great pleasure to, and had been highly entertained by the able paper that had been read. He might say that the operadescribed had been performed by his partner (Mr. Jos. Carlisle) over 50 years ago; and he thought the discussion had shown that it might succeed, and that other treatment might succeed as well, but it was a difficult disease to deal with successfully unless they got their cases at an early stage.

Prof. O'CONNOR suitably acknowledged the vote of thanks.

THE ROYAL (DICK) VETERINARY COLLEGE AND UNIVERSITY GRADUATION.

The Dick College in Clyde Street dates from 1823, when the late Prof. Dick; whose memory it is one of the privileges of the city of Edinburgh to keep green, founded his college under recognition from the Highland and Agricultural Society, which body from 1827 appointed examiners, and granted certificates of proficiency to the successful students. In 1844, on the incorporation, in London, of the Royal College of Veterinary Surgeons, with jurisdiction over the three kingdoms, the Dick College was affiliated to it, and this relation still subsists. Professor Dick died in 1866, leaving to the Town Council of Edinburgh as trustees the college which he had endowed. To the present time the Dick College has continued to be the only endowed veterinary college in Great Britain. After twenty years of Town Council administration the College premises were found inadequate for the increased number of students, and were in 1886-7 rebuilt on a carefully thought-out plan, adapted to the wants of the institution, which may fairly be described as a model of arrangement and compactness, enabling the whole tuition to be given under one roof in well-constructed classrooms, laboratories, and hospital. Thus it is possible for the student to begin and continue his professional studies in what is literally a veterinary atmosphere, to have his energy concentrated on his work, to have frequent opportunity throughout his course of seeing specially interesting clinical and operative cases, and, perhaps, best of all, to share in the *esprit de corps*, which can be highly developed among young men daily in contact and united by common purpose. Absence of distraction and saving of time are obvious advantages of a complete curriculum carried out in one building. Then where the numbers are not too great, teachers and taught come more closely in touch. A self contained institution, other things being equal, is thus to be preferred to a system under which students pass from building to building, often a considerable distance apart, and are massed for instruction in classes with students who have other careers before them.

Professor Schäfer, in a recent University graduation address, drew attention to the latter point as affecting his own department of physiology, the requirements of the ordinary medical student being quite distinct from those of the scientific student, and the teaching of both in one course being scarcely compatible with duty to either. The whole question of the relation of scientific subjects to professional education is an urgent one. If you ask a chemistry professor why he worries medical students with the commercial products of lime, he will probably seek to justify himself on two grounds, one that the scientific teaching of chemistry is good for forming the medical student's young mind in giving it method, and the other that all medical men ought to know chemistry throroughly. So with botany and with zoology, while reformers answer that general education is better given in school, and that the second branch of the argument is just the shoemaker's maxim that there is nothing like leather. It creates trouble where the whole curriculum is taught by specialists, each wanting to take the students to a far point in his own subjects, without any perspective of their actual needs. Tuition by men of lesser rank is more easily co-ordinated. Hence, in the Dick College, the instruction in the preliminary scientific subjects have been specially adapted to the needs of the veterinary student.

For thirty-eight years the Town Council of Edinburgh, as trustees, have patiently done their duty by the Dick College, with little encouragement beyond the satisfaction of doing that duty. The position has been one from which discredit might easily have resulted to the Town Council, and out of which no kudos could ever be got. The burden of care in strictly municipal administration has of late years enormously increased, and the Town Council was thereby becoming less suited for carrying on the management of the college, especially under the more exacting conditions of modern teaching. Not unwisely, therefore, have the Town Council looked round to see whether the transference of the college to a new managing body could be arranged, and also to see whether for the veterinary students the University authorities would be prepared to make an avenue to graduation. At this juncture, most fortunately, a prospect of greatly increased endowment for veterinary teaching opened up. A veterinary practitioner in Edinburgh, Mr. Alexander Inglis M'Callum came forward with a generous offer of £15,000 to endow in the Dick College a Chair of Pathology and Bacteriology. Miss Mary Dick, the sister of the founder of the College, had acted liberally towards the institution after his death by removing rights of life rent which she had, and thus increasing the immediate usefulness of the College. She, by her will, for the endowment of a lectureship in Edinburgh University upon the comparative anatomy of domestic animals, made a bequest, which is now available, and amounts to £12,000; while a further sum of £11,000 her trustees find themselves in a position to make over from the residue of her estate for behoof of the Dick College. Then, owing to the Government having given £15,000 towards the Veterinary College in Dublin, there has come about a belief, for which there is said to be some official foundation, that a similar sum can be claimed from the Treasury for the Dick College; and, as if the visions of a veterinary Eldorado were not complete, there is a hope that 60 acres of land near Burntisland, part of Prof. Dick's endowment, may in time be greatly enhanced in value through the development of that harbour and of the naval base.

A scheme has been provisionally projected between the Town Council and the University Court by which a new Administrative Board is to be constituted and a degree in veterinary science is to conferred by the Unisity. The Board is to consist of Mr. M'Callum during his life, two representatives of the Town Council, and two of the University, three appointed by the veterinary surgeons practising in Scotland (but the first nominations to be made by Mr. M'Callum), and one representative each from the Highland and Agricultural Society, the East of Scotland Agricultural College, the West of Scotland Agricultural College, and Miss Mary Dick's trustees. To the Board is to be entrusted the future management of the Dick College, including the appointment to the new Professorship of Pathology and Bacteriology. To wipe off outstanding debt and start the Board with a balance in hand, it is proposed that the Town Council shall vote £1500 out of the Residue Grant either in one sum or by instalments.

Following up this provisional arrangement, the University Court has issued for consideration a draft ordinance, which, when adjusted, must, under the vexatious restrictions placed upon the autonomy of the Scottish Universities, run the gauntlet of the other three Universities in Scotland, lie for a period on the table of Parliament, and be submitted to the Privy Council before, with the approval of the King in Council, it can become law. When holding out a helping hand to veterinary science, the University had to make a new departure and to choose a policy which may have to serve also as a guide when such professions as dentistry and pharmacy require to be provided with degrees. A simple course would have been to have offered to registered veterinary surgeons a University curriculum of one or two sessions of post-diplomate study and specialisation in the higher branches, so as to fit graduates to be teachers and scientific investigators, as well as to train them for the important duties involved in meat inspection, in cruelty to animals prosecutions, and the like. The low standard of the entrance preliminary examination at the commencement of veterinary study has probably led to the rejection of this course, which had many obvious advantages. The decision cannot have been influenced by any want of standard in the tuition given in the Dick College, where the Town Council have been able hitherto at modest emoluments to secure the services of teachers of distinguished attainment. Nor can it have been due to slackness in the examinations of the Royal College of Veterinary Surgeons, which are in each subject conducted jointly by registered medical practitioners and by veterinary surgeons of recognised position. Doubtless the University has thought that by exercising an active control upon the veterinary student during his whole profetsional course, it could more effectually improve and encourage higher veterinary education. So the Ordinance has been framed somewhat on the lines of graduation in medicine, with a Bachelor's degree and one of Doctor. The preliminary examination is to be the same as the University medical preliminary; the course of study for Bachelor is to be four sessions, while the curriculum embraces the same subjects as are required for the examinations of the Royal College of Veterinary Surgeons, with the addition of Heredity and General Principles of Breeding. Attendance at the Dick College is to qualify *pro tanto* for admission to the University examinations. Botany and zoology are put down as separate subjects, although in the Dick College, as in the Royal Medical Colleges, a combined course is in use, to be taught under the name of biology. Before graduation as Bachelor, a candidate must be a registered veterinary surgeon. The degree of Doctor is to be open to Bachelors of three year's standing and over twenty-five years of age, upon presentation of an accepted thesis and a further practical examination in veterinary medicine and surgery and in hygiene or pathology or bacteriology.

One of the special difficulties in trying to model veterinary graduation upon the plan of our medical degrees lies in the fact that University graduation in medicine admits to the medical register, while veterinary registration is under a one-portal system, and admission can only be got through the diploma of the Royal College of Veterinary Surgeons. Two sets of examinations, one for the register and the other for the degree, and two sets of examination fees will therefore be necessary unless the University can come to some arrangement with the Royal College of Veterinary Surgeons by which the College examinations may in the case of University candidates be made accessible to the University examiners. This is quite feasible, as in the main the subjects are similarly grouped for the examinations. Such an arrangement would be the converse of the system under which the University examinations in medicine qualify for the Medical Register, the Council of Medical Education, which is the registering body, visiting and inspecting the University examinations.

What the citizens of Edinburgh will wish most jealously to be safeguarded is the perpetuation of the Royal Dick Veterinary College as a self-contained institution for the training of veterinary surgeons. Any breaking up of the solidarity of the Dick College would be in violation of the pious donor's intentions, would, if brought about through the new endowments now available, be a peculiar misfortune, contrary to the interests of the bulk of the students attending the College, and certainly not justified on behalf of the small proportion who may proceed to graduation. But a serious indication of an intention on the part of someone to meddle with the scope of the Dick College is disclosed by the ninth head of the proposed arrangement between the Town Council and the University :—"In so far as the teaching of veterinary subjects, whether required for the degree or not (but subject to the University regulations in the case of candidates for the degree), can, in the opinion of the new Board, be from time to time efficiently carried on within the College premises (including the University class teaching of comparative anatomy), the same shall be so carried on ; but in so far as such teaching can, in the opinion of the Board, be as efficiently and more conveniently carried on through attendance at classes within the University, the Board shall from time to time make arrangements with the University authorities for the attendance of veterinary students at such University classes." The expression "veterinary subjects" is vague, but as no strictly veterinary teaching is given in the University, or is likely to be given there, the wider interpretation is probably intended as covering the whole subjects in the veterinary curriculum. Then whose convenience is to be regarded? The word "shall" is imperious, and leaves the Board no discretion. If this ninth head is to stand, attempts may be made to drag ordinary veterinary students to the University classes in physics, botany, zoology, and chemistry, and even in physiology, pathology, and materia medica. If such is the intention of the clause, it bodes no good to the Dick College or to the veterinary profession. No other purpose is obvious, and we venture to suggest that the clause should be deleted, so as to remove all anxiety on the point.—*The Scotsman.*

ARMY VETERINARY DEPARTMENT.

Extract from *London Gazette*,
WAR OFFICE, PALL MALL, Sept. 13.

Capt. F. Eassie, D.S.O., to be Major.

Personal.

CHARLES.—On the 8th September, at 26, Montpelier Crescent, Brighton, the wife of H. E. Audley Charles, M.R.C.V.S., of a son.

Dr. FRAS. EVELYN PLACE, B.Sc., M.R.C.V.S., has been appointed tutor to the two Princes of Kotla, whose father is Minister of Revenue and Agriculture to the Rajah of Jeypur in Rajputana. The Princes are reading for their University degrees, and the choice of a member of the veterinary profession to superintend their education is indicative of the foresight of the Thakur, who wishes his sons to become proficient not only in literature but as gentlemen who will be much engaged in the sport of big game hunting and the supervision of large agricultural estates. We are glad to say that the paralysis left by his severe illness of some four years ago is now much better, and he is able to walk and ride again, the lameness being now only slight.

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks.	Slaugh-tered *
GT. BRITAIN. Week ended Sept. 10, 1904		26	33	..	..	23	42	..	..	14	93
Corresponding week in	1903 ..	13	16	..		31	71	..	..	21	88
	1902 ..	14	23	..	..	22	46	..	..	30	189
	1901 ..	3	3	..		33	61	..	..	27	216
Total for 37 weeks, 1904		709	1112	..	..	1124	1997	..	..	1017	4708
Corresponding period in	1903 ..	570	869	..	..	1087	1805	..	..	1145	5810
	1902 ..	499	801	1	120	840	1498	12	11	1264	5785
	1901 ..	449	653	12	669	987	1692	1	1	2734	13296
Board of Agriculture and Fisheries, Sept. 13th, 1904.											
IRELAND. Week ending Sept. 3, 1904		1	1	..	..	1	1	..	..	6	212
Corresponding Week in	1903 ..	..	..	..	..	.	..	..	..	6	147
	1902 ..	..	..	..	..	1	4	..	..	1	29
	1901 ..	..	..	..	..	..	..	..	..	1	183
Total for 36 Weeks, 1904		3	3	..	..	9	30	..	..	157	3306
Corresponding period in	1903 ..	2	3	..	..	2	3	2	..	135	3024
	1902 ..	..	..	..	..	8	30	..	..	139	2722
	1901 ..	1	2	..	..	4	4	1	1	194	3456

Epizootic Lymphangitis, Week ending Aug. 6. 1 case.

Department of Agriculture and Technical Instruction for Ireland, (Castle Street), Dublin, Sept. 8th, 1904.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection.

LIVE STOCK RETURNS OF GREAT BRITAIN, 1904.

PRELIMINARY STATEMENT for 1904, compiled from the Returns collected on the 4th June; and comparison with 1903.

	1904.	1903.	Increase.	Per C.	Decrease.	Per C.
Horses used for Agricultural purposes Including Mares kept for Breeding	1,120,247	1,106,448	13,799	1·2	...	...
Unbroken Horses: One year and above	301,371	297,121	4,250	1·4	...	...
" " Under one year.	138,918	133,585	5,033	3·8	...	...
Total, Horses	1,560,236	1,537,154	23,082	1·5	...	...
Cows and Heifers in Milk or in Calf	2,678,680	2,588.208	90,472	3·5	...	...
Other Cattle: Two years and above	1,374,646	1,430,625	...	...	55,989	3·9
" " One year and under two	1,429,833	1,368,136	61,697	4·5	...	...
" " Under one year	1,377,203	1,317,649	59,554	4·5	...	...
Total, Cattle	6,860,352	6,704,618	155,734	2·3	...	...
Ewes kept for Breeding ...	9,880,908	9,879,101	1,807	0·0	...	...
Other Sheep: One year and above	5,313,602	5,459,889	...	...	146,287	2·7
" " Under one year ...	10,012,664	10,300,807	...	...	288,143	2·8
Total, Sheep	25,207,174	25,639,797	...	...	432,623	1·7
Sows kept for Breeding ...	382,056	389,900	...	...	7,814	2 0
Other Pigs	2,479,588	2,296,661	182,927	8·0	...	...
Total, Pigs	2,861,644	2,686,561	175,083	6·5	...	...

BOARD OF AGRICULTURE AND FISHERIES, 26th August, 1904.

SEIZURE AND CONDEMNATION OF TUBERCULOUS MEAT.

Sir S. B. Provis, Secretary to the Local Government Board, has issued the following circular, dated Sept. 7th, to the councils of metropolitan and other boroughs and of urban and rural districts :—

"I am directed by the Local Government Board to state that they have had under consideration the report of the Select Committee of the House of Commons on the Tuberculosis (Animals) Compensation Bill, 1904, in which reference is made (*a*) to the variety of practice alleged to exist with regard to the amount of tubercular deposit, the existence of which in a carcase is held to justify its total condemnation ; and (*b*) to complaints made by butchers as to the injury caused to them by their prosecution in open Court for having tuberculous meat upon their premises. With regard to (*a*), it appears to the Board to be most desirable that there should be uniformity in the practice of meat inspectors in dealing with the carcases of cattle ; and they have already on two occasions—viz., in their circular letters of March 11, 1899, and September 6, 1901—set out, and urged the observance of, the principles laid down by the Royal Commission on Tuberculosis in their report of 1898 with respect to the degree of tubercular disease which should cause a carcase or part thereof to be seized. The Royal Commission stated as follows :—

"'We are of opinion that the following principles should be observed in the inspection of tuberculous carcases of cattle :—The entire carcase and all the organs may be seized (*a*) when there is miliary tuberculosis of both lungs ; (*b*) when tuberculous lesions are present on the pleura and peritoneum ; (*c*) when tuberculous lesions are present in the muscular system, or in the lymphatic glands embedded in or between the muscles ; (*d*) when tuberculous lesions exist in any part of an emaciated carcase. The carcase, if otherwise healthy, shall not be condemned, but every part of it containing tuberculous lesions shall be seized (*a*) when the lesions are confined to the lungs and the thoracic lymphatic glands ; (*b*) when the lesions are confined to the liver ; (*c*) when the lesions are confined to the pharyngeal lymphatic glands ; (*d*) when the lesions are confined to any combination of the foregoing, but are collectively small in extent.'

"The Board are of opinion that at the present time measures more stringent than those advocated by the Royal Commission are not called for ; but they would impress upon the council the expediency and desirability of insisting upon those of their officers who are employed as meat inspectors acting in strict accordance with the principles thus laid down, if this is not already the case. With regard to (*b*), the Select Committee express their view that, if a butcher who is in possession of tuberculous meat has notified the fact to the proper authority as soon as he could be reasonably expected to be aware of it, the case should not be taken into Court. The Board understand that in some districts the course recommended by the committee is followed now, but where this is not so the Board suggest that, having regard to the serious consequences which may result to a butcher from prosecution in open Court for being in possession of tuberculous meat, the council should act upon the view expressed by the Select Committee in cases where such possession is voluntarily and promptly disclosed by the owner."—*The Times.*

Last week saw the demolition of an historic inn, Ye Olde Red Lion, Highgate, famous in the old coaching days for the performance of the quaint ceremony of "swearing on the horns," indulged in by travellers and cattle drovers when the Great North Road was a principal line of traffic.

To Check Hospital Abuse.

It has been a grievance with medical practitioners in the East End that the London Hospital has treated patients who have no claim to free advice.

While not admitting that the hospital has been abused, the Governors decided to make some new regulations, the principal of which are :—

The addresses of all patients will be taken, and the books will be open to the inspection of practitioners interested.

Local doctors are invited to visit the out-patients' department, and to communicate with the Secretary if they see a patient known as unsuitable for hospital treatment.

The Secretary will visit every patient on the day after arrival, and if not a suitable case, the patient will be discharged, and asked to give a donation to the hospital.

In addition the co-operation of the Jewish Board of Guardians and the Charity Organisation Society has been sought with the view of preventing the abuse of the hospital.

CORRESPONDENCE.

THE R.V.C's SUPPORT TO ITS MEMBERS

Sir,

The enclosed cutting from *The Evening News* of Sept. 3rd, which I trust you will publish, will be appreciated for what it is worth by members of the veterinary profession, who have paid high fees for a course of Collegiate study to enable them to qualify for practice—with *remuneration* attached, or expected. An old proverb says "Charity excuses not cheating," dnd the charity of the London Veterinary College to those who can well afford to pay a professional fee is depriving, if not defrauding the general and ofttimes struggling practitioner of his rights. What a farce our motto *Vis unita fortior* has become. Why not substitute "Do as you would be done by ?" and act up to it. But where is the Chair of Canine Pathology at the R.V.C. ?—Yours faithfully,

J. Woodroffe Hill,, F.R.C.V.S.

THE CARE OF DOGS.

Take him to the Veterinary College.

If you take the puppy any morning during the week to the Veterinary College, Camden Town, and ask anyone the way to the back entrance, you will then get the best advice, the best of treatment, medicine, etc., for your dog free of charge. You will have to be at the College before ten o'clock, or by ten o'clock the latest. You can go by train to Camden Town, and then ask for the Veterinary College, College Street. You will find you get treated there with civility, and the puppy will soon be well again. I speak from experience, as my puppy was speedily cured. I shall be glad to hear if your dog gets well.—John T. Watchorn, (32 Stavordale Road, Highbury Hill, N.)

Communications and Papers received.—Messrs. J. G. Roberts, J. McKenny, F. E. Place, W. H. Chappell, W. Luther Jones, J. Dunstan, R. Bryden, Capt. W. A. McDougall, A.V.D.

Report of Conference on Diseases in Cattle in S.A., *Transvaal Agric. Journal*, *The Scotsman.*

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers containing facts of interest.